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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,004	01/30/2002	R. Christopher deCharms	27969-702	7144

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EXAMINER

SMITH, RUTH S

ART UNIT PAPER NUMBER

3737

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/066,004	DECHARMS, R. CHRISTOPHER	
	Examiner	Art Unit	
	Ruth S. Smith	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/18/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 19, 2006 has been entered.

Claim Objections

Claim 54 is objected to because of the following informalities: In claim 54, the preamble of the claim is inconsistent with the preamble of claim 53 from which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31,36,37,40,41,-49,52-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Toomim et al. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al. disclose a computer assisted method and software for communicating feedback and information to a subject suffering from a mental disorder in real time based on measured/determined functional brain activity in a region of interest (such as within the cerebral cortex). The use of computer logic to provide the information is disclosed in column 4, lines 15-38.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-35,50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toomim et al in view of Liu et al. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al. disclose a computer assisted method and software for communicating feedback and information to a subject suffering from a mental disorder in real time based on measured/determined functional brain activity in a region of interest (such as within the cerebral cortex). Toomim et al. does not explicitly disclose the number of voxels or volume thereof. Liu et al. generally demonstrates that voxel sizes less than 1x1x1 cm for common imaging modalities are well known. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to obtain measurements from volumes as small as 0.4x0.4x1.0 cm as taught by Liu et al. in the invention as taught by Toomim et al. to obtain highly resolved data for more accurate diagnosis as is well known in the art.

Claims 38,39,42-46,51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toomim et al. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al. disclose a computer assisted method and software for communicating feedback and information to a subject suffering from a mental disorder in real time based on measured/determined functional brain activity in a region of interest (such as within the cerebral cortex). Although Toomim et al. does not explicitly disclose the specific type of information provided and the manner in which it is provided such as displaying text or icons, at the time the invention was made, the type of information displayed and the manner in which it is presented would have been an obvious matter of design choice to a person of ordinary skill in the art because applicant has not disclosed that such display of information provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the visual display of image data as taught by Toomim et al. Furthermore, the specific region of interest and its primary function would be an obvious design choice based upon the specific condition being treated.

Claims 31-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voyvodic "Real-Time fMRI Paradigm Control" in view of Toomim et al. (5,995,857). Voyvodic discloses all of the claimed subject matter, including obtaining high-resolution fMRI images (inherently including one of the claimed regions of interest, see fig. 3-6) - except for employing a computer/logic to communicate information to the subject in real-time. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al generally demonstrates that it is well established to use a computer/logic to visually communicate feedback to a patient via a display in real-time. The use of computer logic to provide the information is disclosed in column 4, lines 15-38. This feedback would be in a time period of less than 10 seconds from when the measurement is taken. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to use the computer to communicate information directly to the patient via a visual display located in the gantry room in the invention of Voyvodic as taught by Toomim et al to provide continuous feedback regarding the monitored data so as to allow the patient to make quicker adjustments in the measured data. Although Toomim et al. does not expressly disclose the specific type of information provided and the manner in which it is provided such as displaying text or icons, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to display the feedback in the form of text or icons, because applicant has not disclosed that such display of information provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the visual display of image data as taught by Toomim et al. The modified Voyvodic would be applicable to any type of human central nervous system activity.

Response to Arguments

Applicant's arguments with respect to claims 31-54 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S. Smith whose telephone number is 571-272-4745. The examiner can normally be reached on M-F 7:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Ruth S. Smith', is positioned above the printed name and title.

Ruth S. Smith
Primary Examiner
Art Unit 3737

RSS